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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/054,207	01/22/2002	Francois Kermarec	569-1000	4665

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BARNES & THORNBURG, LLP
P.O. BOX 2786
CHICAGO, IL 60690-2786

EXAMINER	
AVELLINO, JOSEPH E	
ART UNIT	**PAPER NUMBER**
2143	

DATE MAILED: 12/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/054,207	KERMAREC ET AL.	
	Examiner	Art Unit	
	Joseph E. Avellino	2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-58* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-58* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 January 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-58 are presented for examination; claims 1, 20, 34, and 49 independent.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grossglauser et al. (USPN 6,353,596) (hereinafter Grossglauser).

3. Referring to claim 1, Grossglauser discloses a method of establishing a virtual circuit between PE devices each being connected to CE devices comprising the steps of:

receiving, at a first PE device, an indication from at least one CE device identifying a VLAN (i.e. conversation) which includes said CE device (i.e. sender node identifying a VC in which to send a multicast packet) (col. 13, lines 5-15); and

establishing, for each VLAN identified which includes a plurality of CE devices in which at least one said CE device is connected to a second PE device, a virtual circuit between said first and second PE devices (i.e. VC5 is set up between S_1 and S_2 in order to send messages to the VLAN associated with S1 and R2, RS3, RS4, and R5) (Figure 4; col. 12, lines 35-64).

Grossglauser does not explicitly teach that the network disclosed is a virtual private network (VPN), however Grossglauser does disclose that a virtual connection follows a physical path (i.e. a series of interconnected links) (col. 5, lines 14-19). This indicates to one of ordinary skill in the art that the virtual connections are different than a physical network. As such, the network shown in Figure 4 can be considered a virtual private network since it "emulates a private network over public or shared infrastructures" as stated in the specification (page 1, lines 8-10). The network allows the multicast packets to be received over virtual channels (i.e. VC#) and routed to the appropriate destinations. By this rationale, one of ordinary skill in the art would find it obvious to consider the network shown in Figure 4 as a VPN connected by a plurality of VC's in order to allow efficient routing, segmentation, and reassembly by known methods as supported by Grossglauser (col. 5, lines 20-40).

4. Referring to claim 2, Grossglauser discloses the VC includes a plurality of PE devices (i.e. switches) belonging to a shared network infrastructure through which the VPN is provided (Figure 4, all).

5. Referring to claims 3 and 4, Grossglauser discloses a plurality of VLANs (i.e. a plurality of multicast to multicast channels) and wherein each CE device is connected to a respective PE device by an interface arranged for exchanging data frames each including a VLAN identifier (an inherent feature that if a node wishes to send data over a VC, it inherently must include a VC/VLAN identifier which identifies the VLAN and VC in

order to determine where it is to be routed) (col. 8, lines 17-30; col. 11, lines 15-20, 40-50).

6. Referring to claim 5, Grossglauser discloses the VC is established for forwarding frames including said VLAN identifier (this is an inherent feature since a Virtual Circuit can only exit in a VLAN) (col. 8, lines 17-30; col. 11, lines 15-20, 40-50).

7. Referring to claim 6, Grossglauser discloses establishing a respective flooding virtual circuit (i.e. multicasting VC) in the shared network between each pair of PE devices having at least one CE interface connected to a CE device of the VPN (i.e. S_2 established VC5-7 in order to connect the CE devices, receivers and senders, to the group) (Figure 4, all);

in response to a reception of a first frame including a VLAN identifier at a first CE interface of a first PE device, propagating said first frame on each flooding virtual circuit established from the first PE device (i.e. S_2 sends the message established by S1 on both VC7 and VC6) (Figure 4, all); and

in response to reception of the first frame on a flooding virtual circuit at another PE device, propagating the first frame to each CE device of the VPN connected to said other PE device (i.e. S_3 forwards the packet from S_2 along VC3 and VC4 to RS3 and RS4) (Figure 4, all).

8. Referring to claim 7, Grossglauser discloses allocating, at the first PE device, a first VC resource for the VLAN identifier included in the first frame (i.e. routing table of S_1 indicates that any packet received over VC1 is to be forwarded over VC2 and VC5) (Figure 4, all; col. 12, lines 45-65);

transmitting a first signaling message from the first PE device to each other PE device having at least one CE interface connected to a CE device of VPN, said first signaling message indicating the first virtual circuit resource and the VLAN identifier (col. 11, lines 51-65);

in response to the reception of the first signaling message at each other PE device, storing an identification of the first VC resource in association with the VPN and VLAN identifier (i.e. each switch on the line would establish a VC between the member and the switch on the group tree) (col. 11, lines 51-65).

9. Referring to claim 8, Grossglauser discloses allocating at the second PE device, a second VC resource for the VLAN identifier and transmitting a second signaling message from the second PE device to the first PE device, thereby completing the establishment of a virtual circuit, defined by the first and second virtual circuit resource (it is an inherent feature of the VC setup process that the destination node must send back an acknowledgement packet in order for the sender to know that the VC has been correctly set up as well as the channel of the VC) (col. 11, lines 51-65).

10. Referring to claims 9 and 12, Grossglauser discloses forwarding packets to and from the PE devices using the VC resources (i.e. packets are forwarded using the VC between switches using the routing tables in each switch) (Figure 4, all).

11. Referring to claim 10, Grossglauser discloses the VC resources are labels of a multiprotocol label switching architecture (i.e. handles) (col. 8, lines 42-67).

12. Referring to claim 11, Grossglauser discloses the signaling messages are in accordance with a label distribution protocol (col. 8, lines 42-67).

13. Referring to claim 13, Grossglauser discloses forwarding the second frame through the first CE interface (Figure 4, S_1 forwards the packet over port 2 of the switch).

14. Referring to claim 16, Grossglauser discloses the VC is a label switched path of a multi protocol label switching architecture of a network infrastructure interconnecting a plurality of PE devices (col. 8, lines 16-30).

15. Referring to claim 17, Grossglauser discloses exchanging messages of a label distribution protocol supported by the multi protocol label switching architecture between said first and second PE devices (col. 8, lines 42-67).

16. Referring to claim 18, Grossglauser discloses the PE devices are distant devices communicating through a shared network (figure 4, all).

17. Claims 20-29, 32-46, 49-56 are rejected for similar reasons as stated above.

18. Referring to claim 14, Grossglauser discloses the invention substantively as described in the claims above. Grossglauser does not specifically disclose at most two CE devices are allowed to communicate frames, however the diagram of Figure 4 discloses two senders connected to VC1 and VC11, this would lead one of ordinary skill in the art that two senders can exist on a multicast channel. By this rationale, "Official Notice" is taken that both the concept and advantages of providing at most two CE devices allowed to communicate frames including a given VLAN identifier. It would have been obvious to one of ordinary skill in the art to modify the teaching of Grossglauser to incorporate this feature in order to allow a prioritized messaging system, thereby reducing the load on the network which would occur if each member of the VC was allowed to send messages to all other people.

19. Referring to claim 15, Grossglauser discloses the invention substantively as described in claim 1. Grossglauser does not specifically state that the CE device is connected to the PE device using an Ethernet interface, however "Official Notice" is taken that both the concept and advantages of connecting devices using Ethernet is well known and expected in the art. It would have been obvious to one of ordinary skill

in the art to modify the teaching of Grossglauser to include an Ethernet interface to provide a standardized connection interface, thereby reducing adapters needed to interconnect devices.

20. Referring to claim 19, Grossglauser discloses the invention substantively as described in claim 1. Grossglauser does not specifically state the PE devices are collocated in a provider equipment, however it is well known that switches can be located in a rack mount connecting a plurality of devices together. By this rationale, "Official Notice" is taken that both the concept and advantages of providing for PE devices collocated in provider equipment is well known and expected in the art. It would have been obvious to one of ordinary skill in the art to modify the teaching of Grossglauser to incorporate collocated PE devices in order to utilize the invention in a building wherein all of the switches are located in an equipment room, thereby providing a centralized place to store and maintain the equipment.

21. Claims 30, 31, 47, 48, 57 and 58 are rejected for similar reasons as stated above.

Response to Arguments

22. Applicant's arguments with respect to claims 1-58 have been considered but are moot in view of the new ground(s) of rejection.

23. In light of the arguments presented with respect to the rejection under 35 USC 101, the rejection is hereby withdrawn.

Conclusion

24. Applicant employs broad language, which includes the use of word, and phrases, which have broad meanings in the art. In addition, Applicant has not argued any narrower interpretation of the claim language, nor amended the claims significantly enough to construe a narrower meaning to the limitations. As the claims breadth allows multiple interpretations and meanings, which are broader than Applicant's disclosure, the Examiner is forced to interpret the claim limitations as broadly and as reasonably possible, in determining patentability of the disclosed invention. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See In re Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir.1993). Failure for Applicant to significantly narrow definition/scope of the claims and supply arguments commensurate in scope with the claims implies the Applicant intends broad interpretation be given to the claims. The Examiner has interpreted the claims with scope parallel to the Applicant in the response, and reiterates the need for the Applicant to more clearly and distinctly, define the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph E. Avellino whose telephone number is (571) 272-3905. The examiner can normally be reached on Monday-Friday 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JEA
December 5, 2005

DAVID WILEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100